

State of Rhode Island and Providence Plantations
Department of Administration
Division of Purchases

RIVIP BIDDER CERTIFICATION COVER FORM

SECTION 1 - BIDDER INFORMATION

Bidder must be registered as a vendor on the RIVIP system at www.purchasing.ri.gov to submit a bid proposal.

Solicitation Number: 7549348A2
Solicitation Title: DOT MAINTENANCE HEADQUARTERS CONFERENCE ROOM RETROFIT & SECURITY -
ADDENDUM 2 (3 PGS)
**Bid Proposal Submission
Deadline Date & Time:** 4/3/2015 11:00 AM
RIVIP Vendor ID #: 19975
Bidder Name: Mill City Construction, Inc.
Address: 7 Old Great Rd.
Lincoln , RI 02865
USA
Telephone: 401-766-3100
Fax: 401-769-8910
Contact Name: Paul L. Girard
Contact Title: Vice President
Contact Email: pgirard@mill-city.com

SECTION 2 —DISCLOSURES

Bidders must respond to every statement. Bid proposals submitted without a complete response may be deemed nonresponsive.

Indicate "Y" (Yes) or "N" (No) for Disclosures 1-4, and if "Yes," provide details below. Complete Disclosure 5. If the Bidder is publicly held, the Bidder may provide owner information about only those stockholders, members, partners, or other owners that hold at least 10% of the record or beneficial equity interests of the Bidder.

- N 1. State whether the Bidder, or any officer, director, manager, stockholder, member, partner, or other owner or principal of the Bidder or any parent, subsidiary, or affiliate has been subject to suspension or debarment by any federal, state, or municipal governmental authority, or the subject of criminal prosecution, or convicted of a criminal offense within the previous 5 years. If "Yes," provide details below.
- N 2. State whether the Bidder, or any officer, director, manager, stockholder, member, partner, or other owner or principal of the Bidder or any parent, subsidiary, or affiliate has had any contracts with a federal, state, or municipal governmental authority terminated for any reason within the previous 5 years. If "Yes," provide details below.
- N 3. State whether the Bidder, or any officer, director, manager, stockholder, member, partner, or other owner or principal of the Bidder or any parent, subsidiary, or affiliate has been fined more than \$5000 for violation(s) of any Rhode Island environmental law(s) by the Rhode Island Department of Environmental Management within the previous 5 years. If "Yes," provide details below.

- N 4. State whether any officer, director, manager, stockholder, member, partner, or other owner or principal of the Bidder is serving or has served within the past two calendar years as either an appointed or elected official of any state governmental authority or quasi-public corporation, including without limitation, any entity created as a legislative body or public or state agency by the general assembly or constitution of this state.
5. List each officer, director, manager, stockholder, member, partner, or other owner or principal of the Bidder, and each intermediate parent company and the ultimate parent company of the Bidder. For each individual, provide his or her name, business address, principal occupation, position with the Bidder, and the percentage of ownership, if any, he or she holds in the Bidder, and each intermediate parent company and the ultimate parent company of the Bidder.

Disclosure details (continue on additional sheet if necessary):

SECTION 3 —CERTIFICATIONS

Bidders must respond to every statement. Bid proposals submitted without a complete response may be deemed nonresponsive.

Indicate "Y" (Yes) or "N" (No), and if "No," provide details below.

THE BIDDER CERTIFIES THAT:

- Y 1. The Bidder will immediately disclose, in writing, to the State Purchasing Agent any potential conflict of interest which may occur during the term of any contract awarded pursuant to this solicitation.
- Y 2. The Bidder possesses all licenses and anyone who will perform any work will possess all licenses required by applicable federal, state, and local law necessary to perform the requirements of any contract awarded pursuant to this solicitation and will maintain all required licenses during the term of any contract awarded pursuant to this solicitation. In the event that any required license shall lapse or be restricted or suspended, the Bidder shall immediately notify the State Purchasing Agent in writing.
- Y 3. The Bidder will maintain all required insurance during the term of any contract pursuant to this solicitation. In the event that any required insurance shall lapse or be canceled, the Bidder will immediately notify the State Purchasing Agent in writing.
- Y 4. The Bidder understands that falsification of any information in this bid proposal or failure to notify the State Purchasing Agent of any changes in any disclosures or certifications in this Bidder Certification may be grounds for suspension, debarment, and/or prosecution for fraud.
- Y 5. The Bidder has not paid and will not pay any bonus, commission, fee, gratuity, or other remuneration to any employee or official of the State of Rhode Island or any subdivision of the State of Rhode Island or other governmental authority for the purpose of obtaining an award of a contract pursuant to this solicitation. The Bidder further certifies that no bonus, commission, fee, gratuity, or other remuneration has been or will be received from any third party or paid to any third party contingent on the award of a contract pursuant to this solicitation.
- Y 6. This bid proposal is not a collusive bid proposal. Neither the Bidder, nor any of its owners, stockholders, members, partners, principals, directors, managers, officers, employees, or agents has in any way colluded, conspired, or agreed, directly or indirectly, with any other bidder or person to submit a collusive bid proposal in response to the solicitation or to refrain from submitting a bid proposal in response to the solicitation, or has in any manner, directly or indirectly, sought by agreement or collusion or other communication with any other bidder or person to fix the price or prices in the bid proposal or the bid proposal of any other bidder, or to fix any overhead, profit, or cost component of the bid price in the bid proposal or the bid proposal of any other bidder, or to secure through any collusion, conspiracy, or unlawful agreement any advantage against the State of Rhode Island or any person with an interest in the contract awarded pursuant to this solicitation. The bid price in the bid proposal is fair and proper and is not tainted by any collusion, conspiracy, or unlawful agreement on the part of the Bidder, its owners, stockholders, members, partners, principals, directors, managers, officers, employees, or agents.
- Y 7. The Bidder: (i) is not identified on the General Treasurer's list created pursuant to R.I. Gen. Laws § 37-2.5-3 as a person or entity engaging in investment activities in Iran described in § 37-2.5-2(b); and (ii) is not engaging in any such investment activities in Iran.
- Y 8. The Bidder will comply with all of the laws that are incorporated into and/or applicable to any contract with the State of Rhode Island.

Solicitation #:7549348

Solicitation Title: DOT Highway & Bridge Maintenance HQ 2nd Floor
Conference Room Build Out and Building Security

BID FORM

To: The State of Rhode Island Department of Administration
Division of Purchases, 2nd Floor
One Capitol Hill, Providence, RI 02908-5855

Bidder: Mill City Construction, Inc.
Legal name of entity
7 Old Great Road, Lincoln, RI 01865
Address (street/city/state/zip)
Stephen P. Caron scaron@mill-city.com
Contact name Contact email
401-766-3100 401-769-8910
Contact telephone Contact fax

1. BASE BID PRICE

The Bidder submits this bid proposal to perform all of the work (including labor and materials) described in the solicitation for this Base Bid Price (*including the costs for all Allowances, Bonds, and Addenda*):

\$ 776,480.00

(base bid price *in figures* printed electronically, typed, or handwritten legibly in ink)

Seven hundred seventy six thousand four hundred eighty dollars and zero cents.

(base bid price *in words* printed electronically, typed, or handwritten legibly in ink)

• **Allowances**

The Base Bid Price ***includes*** the costs for the following Allowances:

No. 1: _____ \$ _____

No. 2: _____ \$ _____

No. 3: _____ \$ _____

Total Allowances: _____ \$ _____

Solicitation #:7549348

Solicitation Title: DOT Highway & Bridge Maintenance HQ 2nd Floor
Conference Room Build Out and Building Security

- **Bonds**

The Base Bid Price ***includes*** the costs for all Bid and Payment and Performance Bonds required by the solicitation.

- **Addenda**

The Bidder has examined the entire solicitation (including the following Addenda), and the Base Bid Price ***includes*** the costs of any modifications required by the Addenda.

All Addenda must be acknowledged.

Addendum No. 1 dated: March 24, 2015

Addendum No. 2 dated: March 27, 2015

Addendum No. 3 dated: _____

Addendum No. 4 dated: _____

Addendum No. 5 dated: _____

Addendum No. 6 dated: _____

2. ALTERNATES (Additions/Subtractions to Base Bid Price)

The Bidder offers to: (i) perform the work described in these Alternates as selected by the State in the order of priority specified below, based on the availability of funds and the best interest of the State; and (ii) increase or reduce the Base Bid Price by the amount set forth below for each Alternate selected.

Check "Add" or "Subtract."

____ Add ____ Subtract Alternate No. 1: _____

\$ _____
(amount *in figures* printed electronically, typed, or handwritten legibly in ink)

Solicitation #:7549348

Solicitation Title: DOT Highway & Bridge Maintenance HQ 2nd Floor
Conference Room Build Out and Building Security

(amount *in words* printed electronically, typed, or handwritten legibly in ink)

____ Add ____ Subtract Alternate No. 2: _____

\$ _____
(amount *in figures* printed electronically, typed, or handwritten legibly in ink)

(amount *in words* printed electronically, typed, or handwritten legibly in ink)

____ Add ____ Subtract Alternate No. 3: _____

\$ _____
(alternate amount *in figures* printed electronically, typed, or handwritten legibly in ink)

(alternate amount *in words* printed electronically, typed, or handwritten legibly in ink)

3. UNIT PRICES

The Bidder submits these predetermined Unit Prices as the basis for any change orders approved in advance by the State. These Unit Prices include **all** costs, including labor, materials, services, regulatory compliance, overhead, and profit.

Unit Price No. 1: _____ \$ _____

Unit Price No. 2: _____ \$ _____

Unit Price No. 3: _____ \$ _____

4. CONTRACT TIME

The Bidder offers to perform the work in accordance with the timeline specified below:

- Start of construction: Upon Notice to Proceed
- Substantial completion: _____ XX _____

Solicitation #:7549348

Solicitation Title: DOT Highway & Bridge Maintenance HQ 2nd Floor
Conference Room Build Out and Building Security

- Final completion: 240 calendar days

5. LIQUIDATED DAMAGES

The successful bidder awarded a contract pursuant to this solicitation shall be liable for and pay the State, as liquidated damages and not as a penalty, the following amount for each calendar day of delay beyond the date for substantial completion, as determined in the sole discretion of the State: \$_____0_____.

This bid proposal is irrevocable for 60 days from the bid proposal submission deadline.

If the Bidder is determined to be the successful bidder pursuant to this solicitation, the Bidder will promptly: (i) comply with each of the requirements of the Tentative Letter of Award; and (ii) commence and diligently pursue the work upon issuance and receipt of the purchase order from the State and authorization from the user agency.

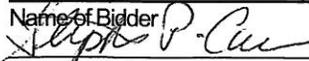
The person signing below certifies that he or she has been duly authorized to execute and submit this bid proposal on behalf of the Bidder.

BIDDER

Date: April 3, 2015

Mill City Construction, Inc.

Name of Bidder



Signature in ink

Stephen P. Caron - VP of Operations

Printed name and title of person signing on behalf of Bidder

19975

Bidder's Contractor Registration Number

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we **MILL CITY CONSTRUCTION, INC.**, of **Seven Old Great Road, Lincoln, Rhode Island**

as Principal, hereinafter called the Principal, and **HARTFORD CASUALTY INSURANCE COMPANY**

a corporation duly organized under the laws of the State of **Indiana**

as Surety, hereinafter called the Surety, are held and firmly bound unto **STATE OF RHODE ISLAND**

as Oblige, hereinafter called the Oblige, in the sum of **Five Percent of the Amount of the Attached bid**

Dollars (**\$5% of bid**),

for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for **DOT Facility Retrofit Highway Bridge and Maintenance Headquarters, 360 Lincoln Avenue; Project No. CMAQ-TMCT-010**

NOW, THEREFORE, if the Oblige shall accept the bid of the Principal and the Principal shall enter into a Contract with the Oblige in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Oblige the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Oblige may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this **3rd of April, 2015**.

Valerie Harney

(Witness)

DCant

(Witness)

MILL CITY CONSTRUCTION, INC.

(Principal)

(Seal)

By: *Andre Girard*
Andre Girard (Title) **President**

HARTFORD CASUALTY INSURANCE COMPANY

(Surety)

(Seal)

By: *Denise A. Chianese*
Denise A. Chianese, (Title) **Attorney-in-Fact**

POWER OF ATTORNEY

Direct Inquiries/Claims to:

THE HARTFORD

Bond T-4

One Hartford Plaza
Hartford, Connecticut 06155

call: 888-266-3488 or fax: 860-757-5835

KNOW ALL PERSONS BY THESE PRESENTS THAT:

Agency Code: 08 089016

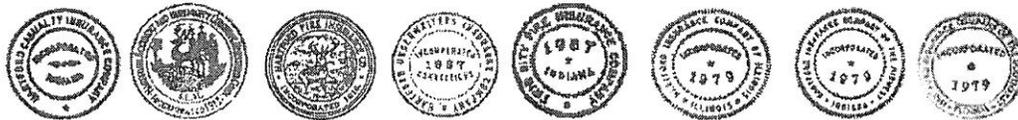
- Hartford Fire Insurance Company, a corporation duly organized under the laws of the State of Connecticut
- Hartford Casualty Insurance Company, a corporation duly organized under the laws of the State of Indiana
- Hartford Accident and Indemnity Company, a corporation duly organized under the laws of the State of Connecticut
- Hartford Underwriters Insurance Company, a corporation duly organized under the laws of the State of Connecticut
- Twin City Fire Insurance Company, a corporation duly organized under the laws of the State of Indiana
- Hartford Insurance Company of Illinois, a corporation duly organized under the laws of the State of Illinois
- Hartford Insurance Company of the Midwest, a corporation duly organized under the laws of the State of Indiana
- Hartford Insurance Company of the Southeast, a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, **up to the amount of UNLIMITED**

FRED R. TRIPP, ANDREW FOTOPULOS, DAVID J. BYRNE III, CHARLES A BYRNE,
DENISE A. CHIANESE OF EAST PROVIDENCE, RHODE ISLAND

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by , and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on August 1, 2009, the Companies have caused these presents to be signed by its Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.



Wesley W. Cowling

Wesley W. Cowling, Assistant Secretary

M. Ross Fisher

M. Ross Fisher, Vice President

STATE OF CONNECTICUT }
COUNTY OF HARTFORD } ss. Hartford

On this 12th day of July, 2012, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hartford, State of Connecticut; that he is the Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.



CERTIFICATE

Kathleen T. Maynard

Kathleen T. Maynard
Notary Public

My Commission Expires July 31, 2016

I, the undersigned, Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of April 3, 2015
Signed and sealed at the City of Hartford.



Gary W. Stumper

Gary W. Stumper, Vice President

Request for Taxpayer Identification Number and Certification

**Give Form to the
requester. Do not
send to the IRS.**

Print or type
See Specific Instructions on page 2.

Name (as shown on your income tax return) MILL CITY CONSTRUCTION, INC.	
Business name/disregarded entity name, if different from above	
Check appropriate box for federal tax classification: <input type="checkbox"/> Individual/sole proprietor <input checked="" type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ <input type="checkbox"/> Other (see instructions) ▶ _____	Exemptions (see instructions): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____
Address (number, street, and apt. or suite no.) 7 OLD GREAT ROAD	Requester's name and address (optional)
City, state, and ZIP code LINCOLN, RI 02865	
List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Social security number									
-				-					
Employer identification number									
0	5	-	0	4	6	9	0	4	9

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below), and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶ April 3, 2015
------------------	----------------------------	----------------------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. The IRS has created a page on IRS.gov for information about Form W-9, at www.irs.gov/w9. Information about any future developments affecting Form W-9 (such as legislation enacted after we release it) will be posted on that page.

Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, payments made to you in settlement of payment card and third party network transactions, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the

withholding tax on foreign partners' share of effectively connected income, and

4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.



April 3, 2015

To Whom it May Concern,

The following is a list of three (3) prior project work experiences that demonstrate we (Mill City Construction, Inc.) has managed contracts of this size and complexity including the scheduling of multiple concurrent construction activities.

1. RI DOT Maintenance – Salt Shed in Glocester, RI - Managed by Stephen P. Caron (401) 741-8037
2. Blackstone Valley Prep – Cumberland, RI - Managed by Stephen Traghella (401) 741-2656
3. East Greenwich Post Office – East Greenwich, RI – Managed by Stephen Caron (401) 741-8037

Best Regards,

A handwritten signature in black ink that reads "Stephen P. Caron". The signature is written in a cursive, flowing style.

Stephen P. Caron

VP of Operations



Innovative Systems Integration...
AV • Security • Presentation Technology

PARTIAL CLIENT LIST

Customer References for IP Network Video Systems Technology

VA Medical Center

Mr. Anthony Fiori
830 Chalkstone Avenue
Providence, RI 02908
(401) 640-3922

Community College of Rhode Island

Mr. David Snow
400 East Avenue
Warwick, RI 02886
(401) 333-7155

General Dynamics/Electric Boat

Mr. Kyle Snurkowski
75 Eastern Point Road
Groton, CT 06340-4989
(860) 433-5092

RI Department of Transportation

Mr. Wayne Owen
Two Capitol Hill
Providence, RI 02903
(401) 222-5826

New Bedford Police Department

Lt. Richard Netinho
871 Rockdale Avenue
New Bedford, MA 02740
(508) 991-6300



30" Wide Lectern

Model PM-400



Standard Features include:

- Constructed with melamine laminates and edge banding
- Pull out keyboard shelf
- Locking audience side door
- Locking presenter side door
- Large interior compartment with adjustable shelf
- Locking heavy-duty casters
- Cable management system

Options include:

- Flip-up side shelf for projector or document camera
- Cable well with lap top connections and A/C outlet
- Document camera drawer
- Quiet Fan
- Custom control dash and cut-outs
- Pocket doors
- Additional adjustable shelf
- Sloped work surface
- 12RU Rack rails
- Hi-intensity gooseneck light
- Power bar
- Digital clock/count-down timer
- Shock mounted gooseneck condenser microphone
- Premium casters
- Custom laminates

Specifications:

External dimensions - Height 43.5" (110cm) x Width 30" (76cm) x Depth 25" (64cm)
Work surface height 38" (97cm) Doc camera drawer 17.5" W x 18.5" D x 8" H

Available in our standard colors, please see our website for details

Copyright @ 2014, Exact Furniture Limited
Phone: 1-800-648-9125 Fax: (905)-856-6344,
www.exactfurniture.com email: sales@exactfurniture.com

FEATURES

- Supports up to 10 SNTP servers for redundancy
- 2 Year Warranty
- Time Zone Management
- Supports Daylight Saving Time
- 12/24 Hour Mode with AM/PM indicators
- Power over Ethernet (IEEE802.3af)
- DHCP or Static IP addressing
- Network Clock Connect configuration
- Programmable brightness controls (High, Low, Sleep, Off)
- Countdown timer

DESCRIPTION

Power over Ethernet (PoE) is a recognized standard (IEEE802.3af) for delivering power over an Ethernet cable. PoE uses a single CAT5 or higher Ethernet patch cable to provide both power and synchronization signals, saving on installation costs and maintenance. It is recommended that an Un-interruptible Power Supply (UPS) be part of the Ethernet network system to maintain clock function during a power outage.

Enclosure constructed of 18 gauge steel with matte black finish. Smoke plexiglass lens.

PoE clocks with the buzzer option have a decibel rating of 65 dBA at 10 feet. Events are scheduled and managed with Network Clock Connect, which can be downloaded at <http://www.atsclock.com/support/poe-clocks.cfm>. The maximum number of scheduled events is 100.



ORDERING INFORMATION

Part #	Description	With Buzzer
POE241RSE	2.5", 4 digit display, red LED	POE241RSEB
POE241GSE	2.5", 4 digit display, green LED	POE241GSEB
POE261RSE	2.5", 6 digit display, red LED	POE261RSEB
POE261GSE	2.5", 6 digit display, green LED	POE261GSEB
POE441RSE	4", 4 digit display, red LED	POE441RSEB
POE441GSE	4", 4 digit display, green LED	POE441GSEB
POE461RSE	4", 6 digit display, red LED	POE461RSEB
POE461GSE	4", 6 digit display, green LED	POE461GSEB

Accessories

TMA200	Single port PoE injector
TMA265	2.5" double dial kit
TMA445	4" 4 digit double dial kit
TMA465	4" 6 digit double dial kit

Note: PoE clocks are factory set to your time zone. Please specify when placing an order.

SPECIFICATIONS

Dimensions: 2.5" display, 4 and 6 digits - 14¹/₈" x 4¹/₈" x 2¹/₄"d
 4" display, 6 digits - 17¹/₂" x 6¹/₁₆" x 2³/₈"d
 4" display, 4 digits - 23³/₈" x 6¹/₁₆" x 2³/₈"d
Weight:.....Varies by model
Operating Temperature:.....32°F to 104°F (0° to 40°C)
Operating Humidity:95% maximum, non-condensing
Accuracy:±1 second

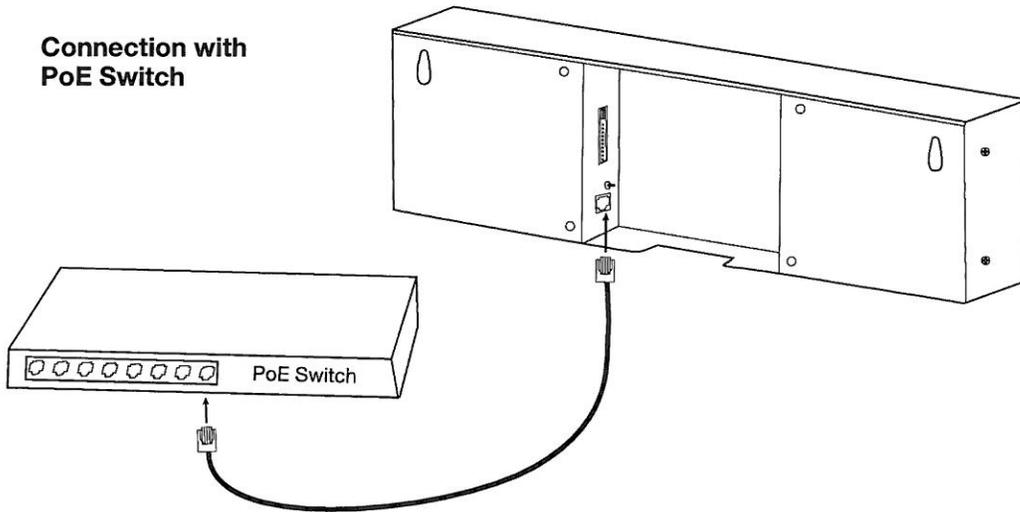
Power Consumption for PoE Digital Clocks

Size	Digits	Color	Power (in watts)
2.5"	4	Green	7.6W
2.5"	4	Red	8.1W
2.5"	6	Green	10.6W
2.5"	6	Red	11.7W
4"	4	Green	7.5W
4"	4	Red	8.5W
4"	6	Green	11.2W
4"	6	Red	11.7W

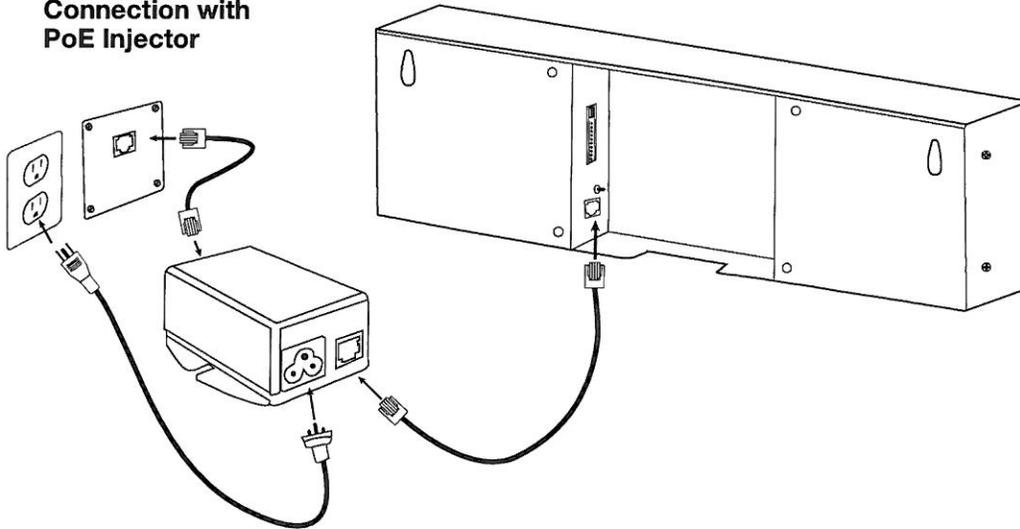
BUZZER/RELAY OPTION SPECIFICATIONS

Dry contact closure
 Wiring for internal relay closure:
Maximum Voltage:.....125vdc, 150vac
Maximum Switched Current:.....1A
Maximum Carrying Current:.....1A
Maximum Switch Power:.....30W (DC), 60VA (AC)

Connection with PoE Switch



Connection with PoE Injector



At American Time, we continually strive to improve our products to meet our customers' needs and to provide the best possible value. The above specifications are believed to be correct, are subject to change without notice and may otherwise vary from the above. Please call if you need verification of any specifications or the suitability of a particular product for a particular application. © American Time

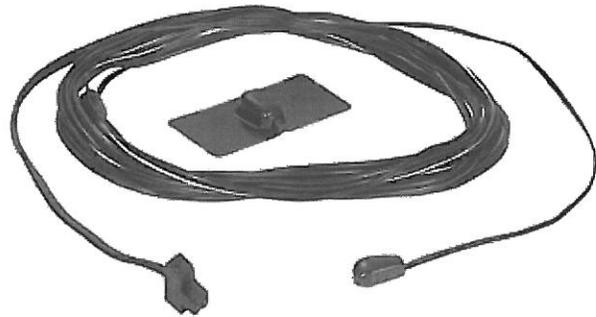


Click here to print this page

IRP2

IR Emitter Probe

The IRP2 is an IR (infrared) emitter probe designed to adhere directly over the IR sensor window of a television, DVD player, or any other IR controllable device. The IRP2 connects to any Crestron control system with a 2-pin terminal block type Crestron IR port, providing a 1-way IR control interface to the device. The IRP2 is composed of an infrared LED housed in a miniature shell. Its integral 7 foot cable may be extended up to 1000 feet using ordinary twisted pair cable. Includes IR mask and two-sided tape for mounting.



■ Product Description

The IRP2 is an IR (infrared) emitter probe designed to adhere directly over the IR sensor window of a television, DVD player, or any other IR controllable device. The IRP2 connects to any Crestron control system with a 2-pin terminal block type Crestron IR port, providing a 1-way IR control interface to the device. The IRP2 is composed of an infrared LED housed in a miniature shell. Its integral 7 foot cable may be extended up to 1000 feet using ordinary twisted pair cable. Includes IR mask and two-sided tape for mounting.

Last Updated: Apr 9, 2009

■ Technical Specifications

Connectors

(1) 2-pin 3.5mm detachable terminal block for connection to a Crestron IR port

Enclosure

Black injection molded plastic with integral lightweight cable

Dimensions

Height	0.25 in (0.64 cm)
Width	0.31 in (0.79 cm)
Depth	0.56 in (1.43 cm)

Cable Length

Mini-wire Lead	3 ft (0.91 m) long
Cable	7 ft (2.13 m) long

Printed from URL:
http://www.crestron.com/resources/product_and_programming_resources/catalogs_and_brochures/online_catalog/default.asp?jump=1&model=IRP2



Control[®] 23

Ultra-Compact Indoor/Outdoor Background/Foreground Speaker

Professional Series

Key Features:

- ▶ Components: 3½" Polypropylene coated woofer, ½" Titanium coated horn loaded tweeter.
- ▶ Built-in *InvisiBall*[®] mounting hardware*
- ▶ Weather resistant enclosure and transducers
- ▶ Readily paintable to match decor
- ▶ 90° x 90° high frequency horn
- ▶ Overload Protection Circuitry
- ▶ Sensitivity: 86 dB SPL, 1W, 1m

*Patents pending worldwide

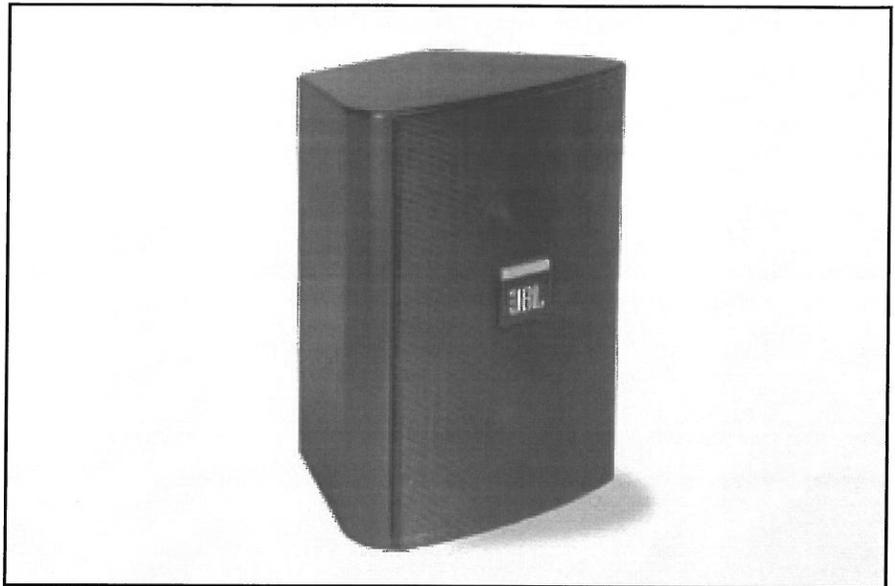
The Control 23 is the most compact of JBL Professional's Control Contractor Series indoor/outdoor loudspeakers making it a perfect choice for patios, foyers, retail or other applications where foreground/background music and paging are required, with minimum aesthetic impact.

The unique and global patent pending *InvisiBall*[®] mounting hardware is included in each system and makes short work of permanent installation. The *InvisiBall* mounting method adds the benefit of vertical rotation of up to 37° off-axis and horizontal rotation of up to 44° off-axis. Because *InvisiBall* adjustments are made through a hidden access behind the logo badge, the grill never needs to be removed and there exists a high degree of theft deterrence as well.

The Control[®] 23 readily accepts a variety of paints and finishes to match any decor.

Weather resistance is maximized by coating the woofer cone in polypropylene and terminating its circumference in JBL's *WeatherEdge*[™], a seamless, rubberized extension of the woofer surround that provides added protection to critical transducer elements. The polycarbonate tweeter diaphragm is reinforced with a thin film of titanium for added rigidity and endurance against sun, salt and moisture. Zinc plated grilles resist rusting.

Available in black (Control 23) and white (Control 23-WH).



Specifications:

Frequency Range (-10 dB) ¹ :	85 Hz to 22 kHz
Continuous Program Power Capacity ² :	50 Watts
Sensitivity ³ :	86 dB SPL, 1W, 1m
Directivity Factor (Q):	4.8
Directivity Index (DI):	6.8
Nominal Impedance:	8 ohms
Crossover Frequency:	3.5 kHz
LF Driver:	88 mm (3.5 in) Polypropylene cone w/WeatherEdge
HF Driver:	13 mm (.5 in) Titanium coated polycarbonate
Enclosure Material:	HIPS (High Impact Polystyrene)
Overload Protection:	Full-Range power limiting to protect network and transducers
Termination:	Spring terminals, accepts banana plug
Environmental:	Conforms to Mil Spec 810 for humidity, salt spray, temperature & UV. IEC 529 IP-X4 splashproof rating.
Dimensions (H x W x D):	193 x 140 x 111 mm (7.6 x 5.5 x 4.4 in)
Net Weight (ea):	1.8 kg (4 lbs)
Shipping Weight (pr):	4.1 kg (9 lbs)
Included Accessories:	Invisiball Assembly 4 mm x 80 mm hex key
Optional Accessories:	
MTC-23SSG	Stainless Steel Grille. Silver, black (-BK) or White (-WH)
MTC-23WMG	Weather Max [™] Grille with backing to break up driving rain. Black or white (-WH)
MTC-PC2	Input panel cover protects input terminals in outdoor environments
MTC-23CM:	Ceiling-mount adapter.
MTC-23V:	For vertical columnar orientation of up to 3 loudspeakers
MTC-25/23H:	For horizontal splaying of two speakers. Three brackets array up to six loudspeakers in a 360° array.

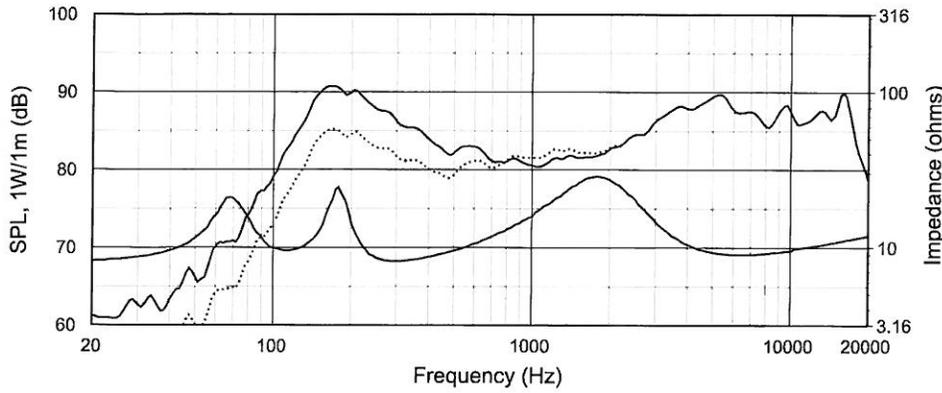
¹Half-space (on-wall).

²Continuous program power is a conservative expression of the system's ability to handle normal speech and music program material and is defined as 3 dB above the Continuous Pink Noise Rating (IEC-shaped pink noise with a 6 dB crest factor, for 100 hours continuously).

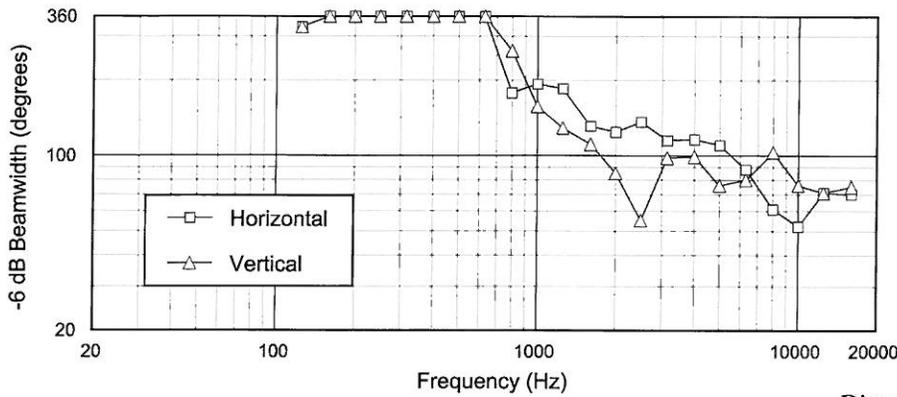
³Half-space (on-wall), ave 100 Hz to 10 kHz.

JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

► Control® 23 Ultra-Compact Indoor/Outdoor Background/Foreground Speaker

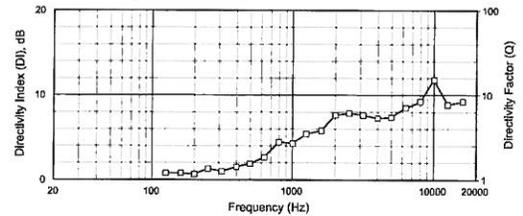


Frequency Response in half-space (2π , solid line) and full-space (4π , dotted line), and Input Impedance

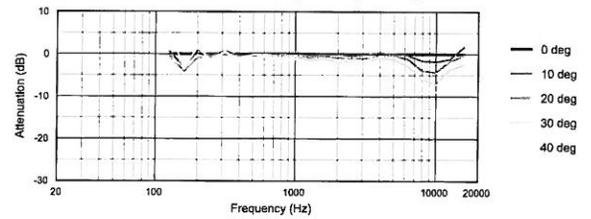


Beamwidth

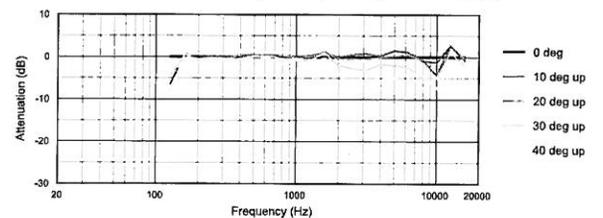
Directivity Index, Q



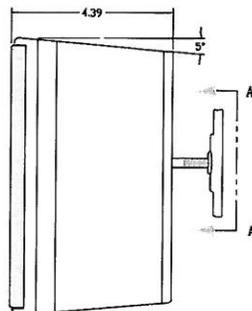
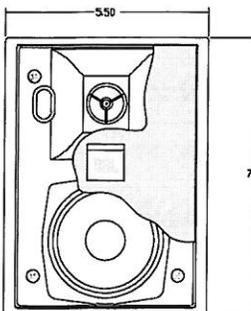
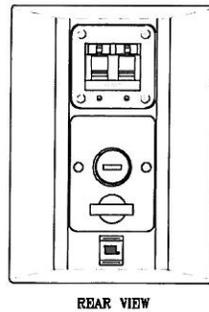
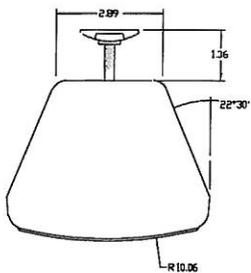
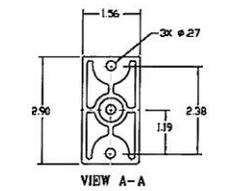
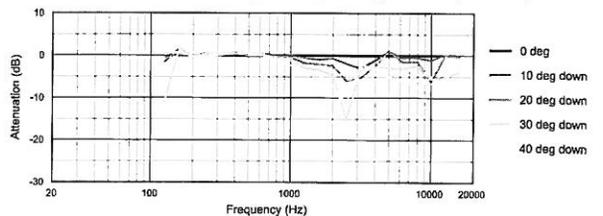
Horizontal Off Axis Frequency Response



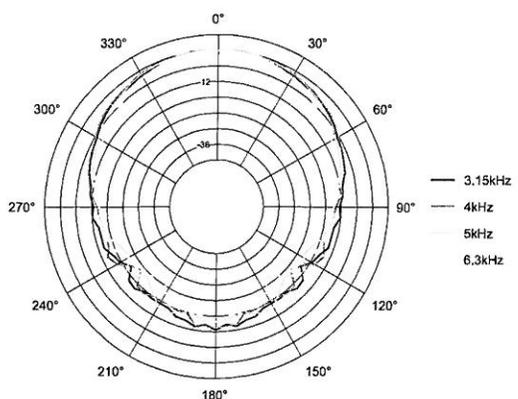
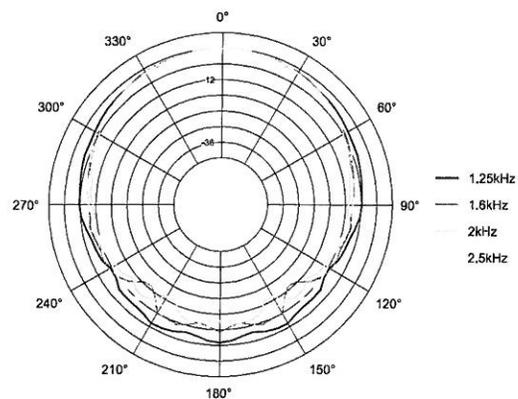
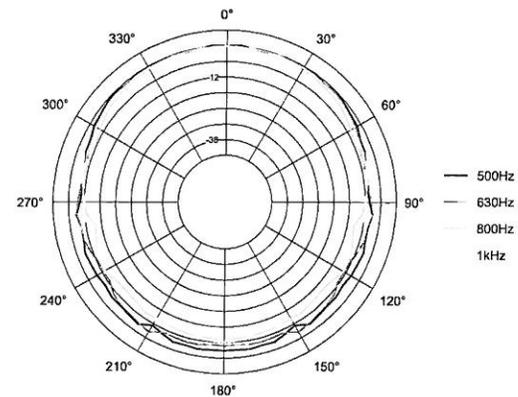
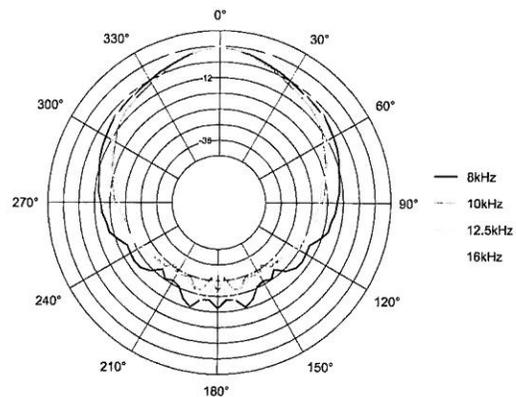
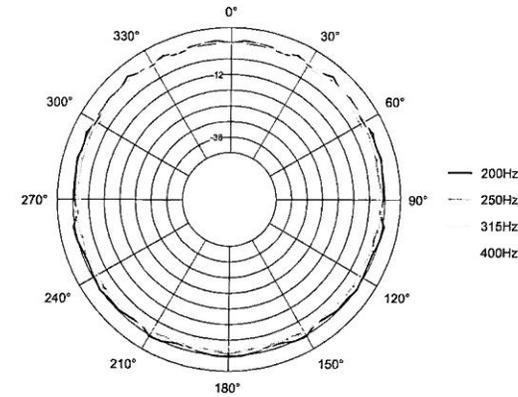
Vertical Off Axis Frequency Response (up)



Vertical Off Axis Frequency Response (down)



Horizontal 1/3 Octave Polars



Architectural Specifications:

The loudspeaker shall consist of a 90 mm (3-1/2 in) low frequency transducer, 13 mm (1/2 in) high frequency transducer, and frequency dividing network installed in a ported enclosure. The low frequency voice coil shall be 19 mm (3/4 in) in diameter.

Performance specifications of a typical production unit shall be as follows: Measured sensitivity (SPL at 1 m [3.3ft] with 2.83V input, averaged from 500 Hz to 1.5 kHz) shall be at least 86 dB-SPL. Usable frequency response shall extend from 85 Hz to 22 kHz (10 dB below rated sensitivity, in half-space, with no external equalization). Nominal impedance shall be 8 ohms. The frequency dividing network shall have a crossover frequency of 3.5 kHz. Rated power capacity shall be at least 50 watts continuous program power, defined as 3 dB above a test signal of filtered random noise conforming to international standard IEC268-5 (shaped pink noise with a peak-to-average ratio of 6 dB), for 100 continuous hours duration.

The system shall be protected against damage from occasional over-powering via full range series lamps that limits the power to the network and transducers. The high frequency transducer shall be horn-loaded to more evenly cover a nominal 90° horizontal by 90° vertical area.

The enclosure shall be constructed of high-impact polystyrene for protection against the elements in outdoor applications, and for paintability. The grille shall be completely zinc-coated for resistance against rusting, shall be bake-painted black, and shall be secured via screws to keep it in place when facing downward.

The low frequency transducer shall have a polypropylene cone and a butyl rubber surround which shall extend seamlessly over the edge of the speaker frame for protection against the elements. The high frequency transducer shall be constructed of polycarbonate, reinforced with a titanium film for additional weather resistance. The system shall withstand Mil Spec 810 testing with specified time durations for exposure to the following environments with no effect on its acoustical performance or structural integrity: salt spray (method 509.3), temperature -19°C to 49°C (method 501.3 and 502.3), 95% humidity (method 507.3) and ultra-violet (method 505.3). The system shall have a IEC 529 splashproof rating of IP-X4.

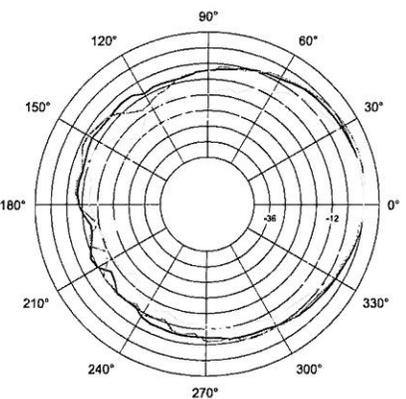
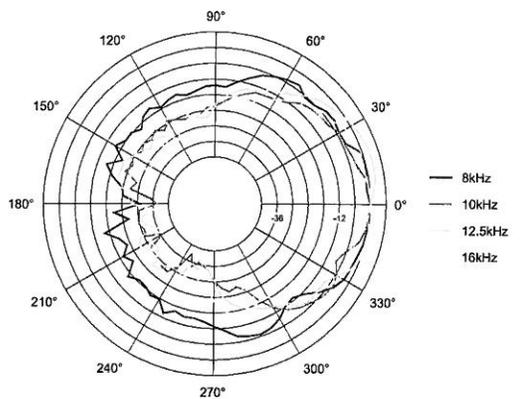
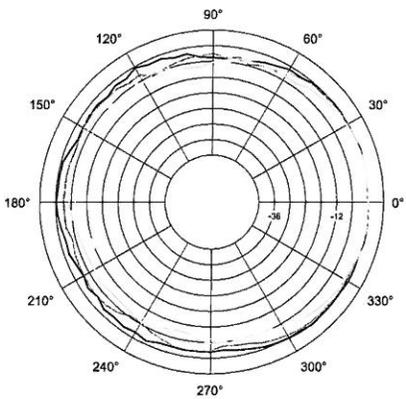
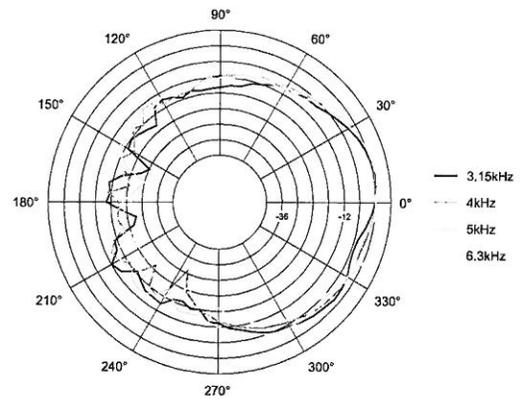
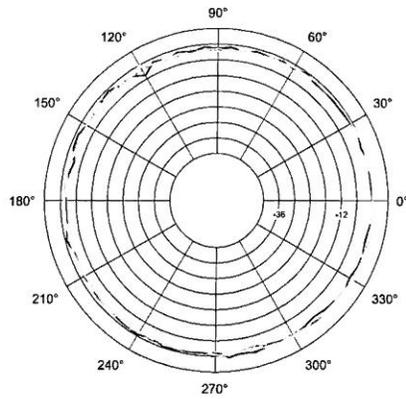
For theft deterrence, the installation access area shall be hidden behind a snap-out cover, and the access area shall be on the front of the loudspeaker for ease of installation and adjustment. The loudspeaker shall be rotatable over a minimum of ±35° in all directions via a ball-type mounting system. The ball mechanism shall be internal to the cabinet to allow low-profile mounting and better stability via a short moment arm. The logo shall be rotatable for proper orientation when the loudspeaker is mounted horizontally or vertically.

The external wiring connectors shall be spring loaded and gold plated, and shall accept bare wire, single or dual banana-type connectors with 19 mm (3/4 in) spacing. Overall cabinet dimensions shall be no greater than 193 mm (7.6 in) high by 140 mm (5.5 in) wide by 111 mm (4.4 in) deep and shall weigh no more than 1.8 kg (4 lbs). The finish shall be a paintable lightly textured black.

The system shall be the JBL Model Control 23 with included Invisiball® mounting system.

► Control® 23 Ultra-Compact Indoor/Outdoor Background/Foreground Speaker

Vertical 1/3 Octave Polars



JBL Professional
 8500 Balboa Boulevard, P.O. Box 2200
 Northridge, California 91329 U.S.A.

■ A Harman International Company
 © Copyright 2000 JBL Professional

SS Control 23
 CRP 10M
 7/00

ST650 / ST650-S
ST650P / ST650P-S

SmartMount® Universal Tilt Wall Mount for 32" to 56" Flat Panel Displays

The ST650 is indispensable when it comes to display placement flexibility. It features open wall plate architecture that delivers increased electrical access and cable management options. Its exclusive pre-tensioned universal tilt display adapters deliver the ultimate ease in horizontal display adjustment and viewing angle flexibility.



FEATURES

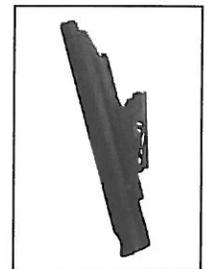
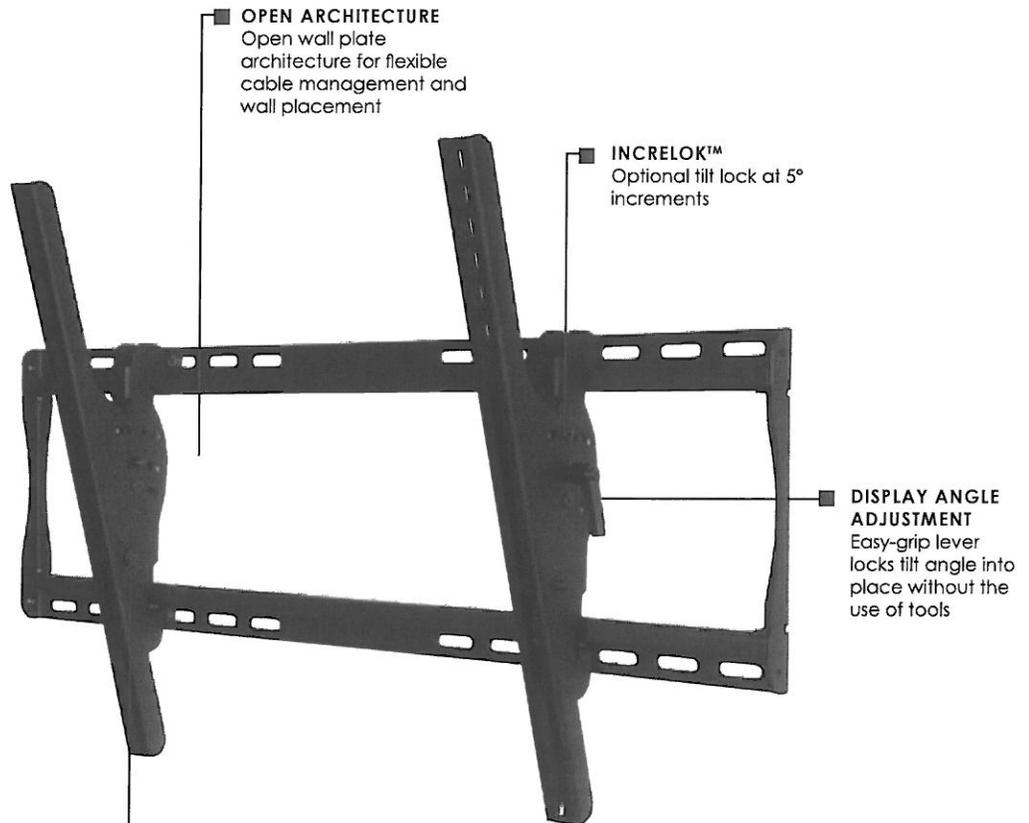
- Universal mount fits displays with mounting patterns up to 750 x 449mm (29.52" W x 17.67" H)
- Open wall plate architecture allows for total wall access, increasing electrical access and cable management options
- Adjustable up to 15° of forward tilt and -5° backward tilt for optimal viewing angle
- Pre-tensioned universal tilt bracket allows for tilt adjustment without the use of tools
- Easy-grip lever locks the display position into place
- Optional IncreLok™ feature offers fixed tilt angles of -5°, 0°, 5°, 10°, 15°
- Horizontal display adjustment of up to 8" (203mm) (depending on display model) for perfect display placement
- Universal display adapters easily hook onto wall plate for fast installation
- Mounts to wood studs, concrete, cinder block or metal studs (metal stud accessory required)
- Comes with Peerless' Sorted-for-You™ fastener pack with all necessary display attachment hardware
- Integrated security options available
- UL listed



Display size: 32"-56"



Max load: 175lb (79kg)



Adjustable +15/-5° tilt



Model Numbers

ST650(-S)	Universal Tilt Wall Mount for 32" to 56" Flat Panel Displays - security models
ST650P(-S)	Universal Tilt Wall Mount for 32" to 56" Flat Panel Displays - standard models

WARRANTY: Limited 5-year

Product Specifications

	DIMENSIONS (W x H x D)	PRODUCT WEIGHT	LOAD CAPACITY	FINISH	AVAILABLE COLORS
ST650(P)(-S)	33.64" x 18.5" x 2.63"-5.71" (854 x 470 x 67-145mm)	7.94lb (3.6kg)	175lb (79kg)	Scratch resistant fused epoxy	ST650(P): Black ST650(P)-S: Silver

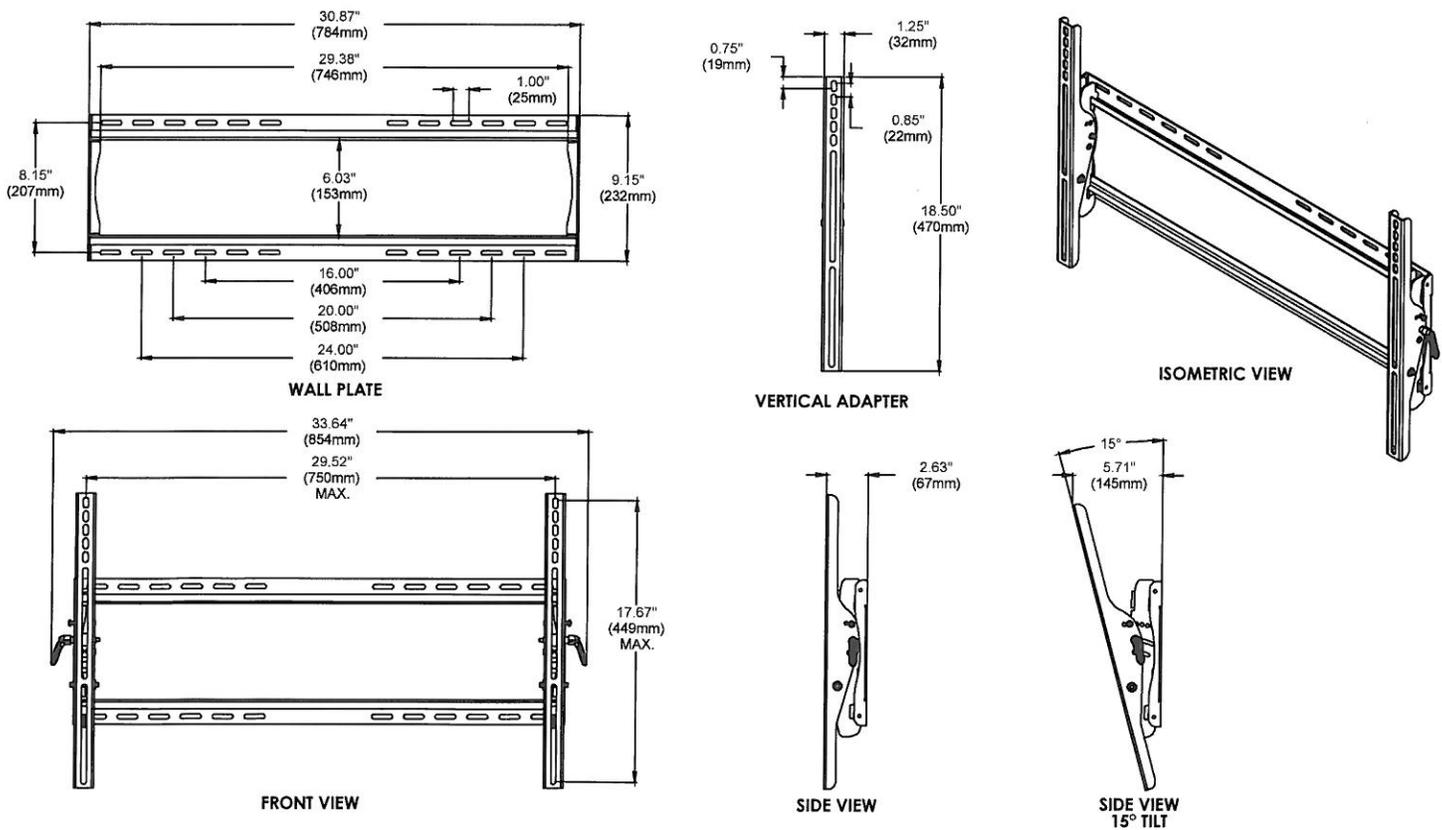
Package Specifications

	PACKAGE SIZE (W x H x D)	PACKAGE SHIP WEIGHT	PACKAGE UPC CODE	PACKAGE CONTENTS	UNITS IN PACKAGE
ST650(P)(-S)	32" x 10.06" x 3.5" (813 x 256 x 89mm)	10.5lb (4.76kg)	ST650: 735029235941 ST650-S: 735029235965 ST650P: 735029235958 ST650P-S: 735029235972	Wall plate, universal display adapters, mounting and display attachment hardware	1

Accessories

ACC415:	4-pack Metal Stud Fastener Kit
ACC309:	Video Conference Shelf

All dimensions = inch (mm)



ARCHITECTS SPECIFICATIONS

The Smartmount® Universal Tilt Wall Mount shall be a Peerless-AV model ST650 and shall be located where indicated on the plans. It shall be constructed of heavy gauge cold rolled steel and finished with scratch resistant Black or Silver Fused Epoxy. Assembly and installation shall be done according to instructions provided by the manufacturer.

Peerless Industries, Inc. ■ 2300 White Oak Circle ■ Aurora, IL 60502 ■ (800) 865-2112 ■ (630) 375-5100 ■ Fax: (800) 359-6500 ■ www.peerless-av.com

Visit www.peerless-av.com to see the complete line of AV solutions from Peerless-AV, including flat panel mounts, projector mounts, carts/stands, furniture, cables, screen cleaners and a full assortment of accessories.


Middle Atlantic Products

EXCEPTIONAL SUPPORT & PROTECTION™

Series Protection™ Power Distribution


PATENT PENDING

Series Protection™ - Power Distribution with Instantaneous & Non-Degrading Surge Elimination

Features

- Industry's fastest patent-pending non-sacrificial surge technology protects equipment from damage without contaminating system ground
- 100% free MOV-free design is non-sacrificial and non-degrading
- Connected devices are automatically disconnected (protected) from sustained over & under input voltage
- Automatic recovery after both over- and under-voltage events minimizes system downtime
- Available in 15 or 20 Amps at 120 volts in 19" rackmount, in 15 or 20 Amps in half rack, and in 15 Amp hardwired versions
- 15 Amp Hardwired model available
- Series Protection technology meets the most current and applicable highest standard for safety and reliability
- 12 year warranty


PD-920R-SP

PD-415R-SP

PD-HW15-SP

Architects' and Engineers' Specifications

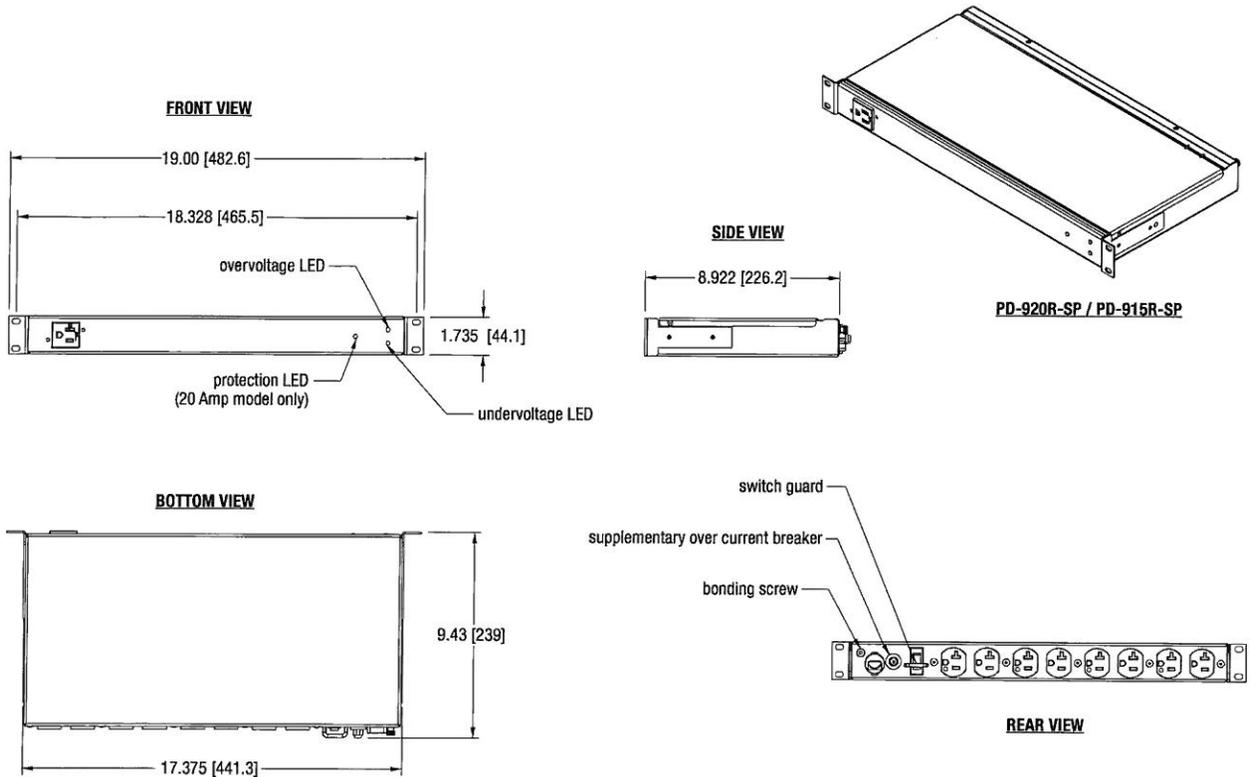
Series Protection™ power distribution unit shall be Middle Atlantic Products model # PD-____-SP (refer to chart), with a (15, 20) Amp power capacity. Series Protection power distribution unit shall operate on 120 volt AC/60Hz current. Series protection shall be ____ (Rackmount, Half-rack rackmount, Stand Alone, refer to chart). Series Protection shall be ____" H x ____" W X ____" D, refer to drawing. Series Protection shall include 9' 14/3 SignalSAFE™ power cord with NEMA 5-__P (15, 20) (refer to chart) plug, or be hardwired. Series Protection shall include ____ (4,8) rear outlets, ____ (0, 1) (refer to chart) front outlets. Series Protection power distribution shall have both over AND under-voltage cutoff and shall automatically restore power once event has passed. The over voltage cut-off threshold shall not exceed 135 VAC. The under voltage cut-off

threshold shall not be lower than 100 VAC. Series Protection power shall be 100% free of MOVs. Series Protection power shall have a rated capacity (not peak operating capacity) of (15A/20A) (refer to chart). Series Protection power distribution shall have a black powder coat finish. Series Protection shall comply with the requirements of RoHS EU Directive 2002 / 95 / EC. Rackmount power strip shall be ETL Listed to UL standard 1283 and 1449, 3rd Ed. (Corded model), or 1283 (hardwired model) in the US and to CAN/CSA C22.2 #8, ed. 4 in Canada. Series Protection power distribution shall be manufactured by an ISO 9001 registered company. Series Protection power distribution shall be warrantied to be free from defects in materials and workmanship under normal use and conditions for a period of 12 years.

CUSTOMIZABLE SPECIFICATION CLIPS AVAILABLE AT MIDDLEATLANTIC.COM

Full Rackmount 19" Width basic dimensions

All dimensions in inches unless otherwise noted [All dimensions in brackets are in millimeters]



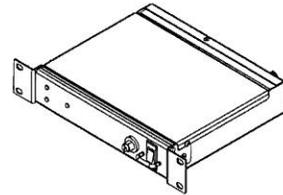
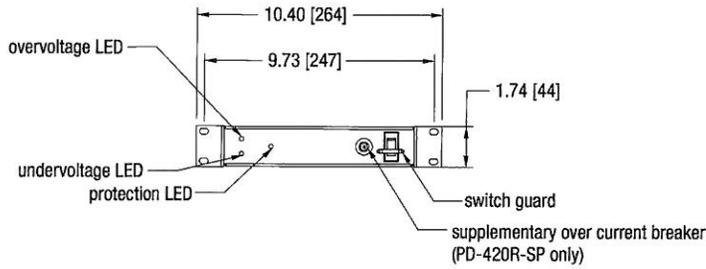
Part #	Chassis	Input	Outlet Qty	Peak Load @120VAC	Surge Mode	Measured Over/Under Voltage Threshold (Outlets Only)*			
						Upper Limit Cutoff	Upper Limit Restore	Lower Limit Cutoff	Lower Limit Restore
PD-915R-SP	Rackmount	9' SignalSAFE™ Cord	9	15A	Series	135VAC (RMS)	126VAC (RMS)	100VAC (RMS)	105VAC (RMS)
PD-920R-SP	Rackmount	9' SignalSAFE™ Cord	9	20A	Series	135VAC (RMS)	126VAC (RMS)	100VAC (RMS)	105VAC (RMS)
PD-415R-SP	Half Rack	9' SignalSAFE™ Cord	4	15A	Series	135VAC (RMS)	126VAC (RMS)	100VAC (RMS)	105VAC (RMS)
PD-420R-SP	Half Rack	9' SignalSAFE™ Cord	4	20A	Series	135VAC (RMS)	126VAC (RMS)	100VAC (RMS)	105VAC (RMS)
PD-HW15-SP	Stand alone	Internal J-Box		15A	Series	135VAC (RMS)	126VAC (RMS)	100VAC (RMS)	105VAC (RMS)

*Measured using 0.8 pf load

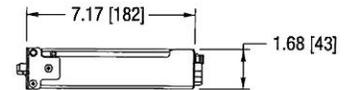
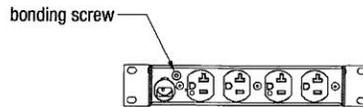
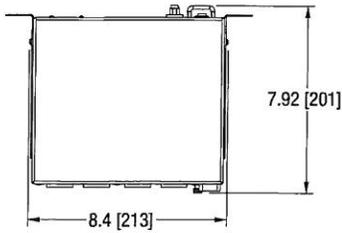


Half Rackmount 10.4" Width basic dimensions

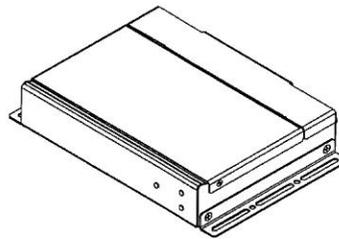
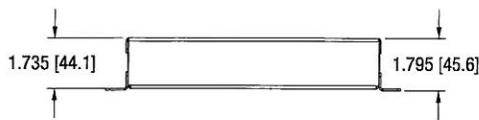
All dimensions in inches unless otherwise noted [All dimensions in brackets are in millimeters]



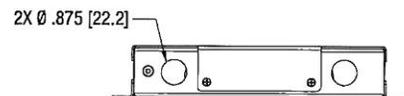
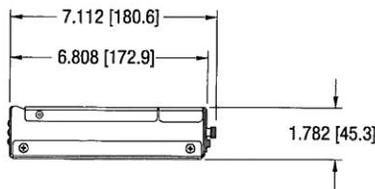
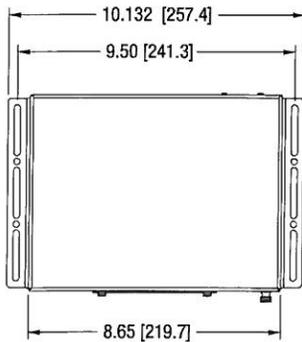
PD-420R-SP / PD-415R-SP



PD-HW15-SP basic dimensions



PD-HW15-SP





Planar EP5550

Large Format Display

The Planar® EP5550 is a 55" LCD display designed specifically for commercial applications operating 24x7. The Planar EP5550 provides a full array of connectivity and control options, high brightness and performance, portrait or landscape orientation and an industrial thin metal bezel for enhanced durability.



SPECIFICATION	DETAIL
Display Resolution	FHD 1080p (1920 x 1080)
Aspect Ratio	16:9
Display Technology	Edge-lit LED LCD
Screen Size	55in. diagonal
Cabinet Dimensions (W x H x D)	49.2 in. x 28.3 in. x 2.1 in. (1248.6 mm x 719.4 mm x 52.2 mm)
Bezel Width	0.7" (18mm)
Brightness (Typical)	700 cd/m ²
Response Time	6.5ms
Frame Rate	60Hz
Contrast Ratio	4000:1
Full viewing angle	178°
Color Gamut	72% NTSC
Weight	68 lbs (31 kg)
Weight (Shipping)	84 lbs (38 kg)
Backlight	Edge-Lit LED
Line Voltage	100-240V; 50/60Hz
Power Consumption (max)	155W (Max)
Standby Consumption	<0.5W
Operating Environments	Temperature: 5-40° C (41-104° F); Humidity: 20-80% humidity non-condensing
Safety regulations	FCC Class A, EN60950, CE

Standard Inputs	VGA x 1; HDMI x 2; DVI-D x 1; Displayport x1; Composite video (RCA) x 1; Component video (RCA) x 1; S-Video (Mini DIN) x 1
Audio Input	PC Audio in (Jack)
Audio Output	R/L Line out (Jack)
Display Control	LAN RJ45, RS232 in, IR, Keypad (lockable)
Speakers	10W x 2 built-in
Optional Accessories	ContentSmart media player, fixed wall mount, tilting wall mount, table stand
Auto Brightness Control	Ambient light sensor
Enclosure	Metal, Industrial
Orientation	Landscape/Portrait
Mounting	400 mm x 400 mm VESA; 8 holes
Fanless	Yes
Backlight life (1/2 brightness)	50,000 hours
Bezel color	Black or custom
Features	On/Off scheduling, Picture-in-Picture (PIP), TAA compliant
Warranty	3 years Advance Exchange
UPC	8 10689 07042 9

For more information, please visit www.planar.com

Specifications are subject to change without notice.

Specification Report Date: 4/2/2015

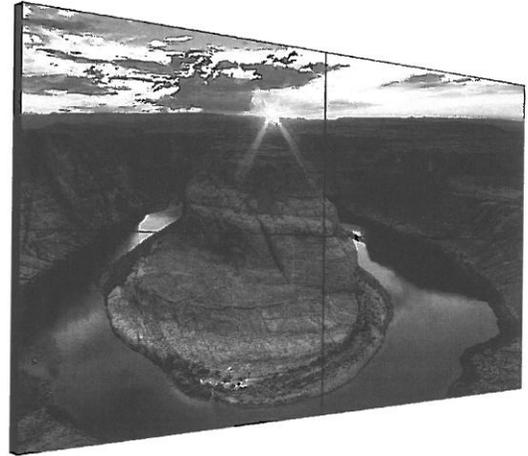
© Copyright 2015 Planar Systems, Inc. All rights reserved.



Clarity Matrix LX55HDS

LCD Video Wall System

The 55" Clarity™ Matrix LX55HDS-L with G2 Architecture features Full HD resolution, LED backlighting and a mere 5.5mm bezel gap for outstanding tiled visual performance. This model features standard brightness of 500 nits for controlled ambient lighting and is ideal for lighter usage environments. Featuring Planar's EasyAxis™ Mounting System, Clarity Matrix LX55HDS-L has an ultra-thin installed depth of 4.2"/107mm, 6-axis adjustment cams for perfect panel-to-panel alignment and front-service mode.



SPECIFICATION	DETAIL
Planar Part Number	997-7214-00
Technology	Commercial-grade direct view LCD
Diagonal	55 inches
Aspect Ratio	16:9
Native Resolution Panels	1920 x 1080
Tiled Bezel Width	5.5 mm
Brightness (typ)	500 nits
Response Time (typ)	8 ms
Contrast ratio (full field)	3500:1
Full viewing angle	178°
Backlight life (1/2 brightness)	50,000 Hrs
Mounted depth	4.2" wall to front of screen
Acoustic noise	Fanless operation
Heat load	557 BTU per hour at 500 nit
Operating temperature range	5 - 40 Degrees C
Operating humidity range	20-90% RH non-condensing
Backlight control	Individual and wall control
Backlight sensing and reporting	At display level
Display module position sensing	Auto-sensing integrated

Power Consumption (max)	183 watts (typical)
Power supply voltage	100-240 Volts AC, 50-60Hz auto switching
Power Status	Diagnostics LEDs, health monitoring and alerts
Safety regulations	Complies with EN60950, FCC Class A, CISPR22/85, CE, EU RoHS
Data Inputs	4 Single Link HDMI inputs, 1 DisplayPort input
Control	IR Remote, RS232, Ethernet (optional)
Per Panel Dimensions (Including Mount)	47.84" x 27.01" x 4.2"
Per Panel Weight (Including Mount)	59 lbs
Shipping weight	150 lbs
Touch Options	Clarity Matrix MultiTouch Kits

For more information, please visit www.planar.com

Specifications are subject to change without notice.

Specification Report Date: 4/2/2015

© Copyright 2015 Planar Systems, Inc. All rights reserved.

SHARP

PN-L802B
PN-L702B
PN-L602B
TOUCHSCREEN LCD MONITOR

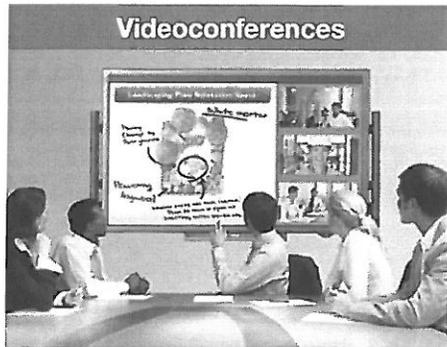
Share, Collaborate, Communicate—
An Intuitively Easy Touchscreen Solution



For All the Ease and Impact of Touchscreen Interaction

As a highly intuitive integrated touchscreen LCD monitor, the PN-L802B/L702B/L602B makes conventional presentation tools look out of touch with the communication needs of today's businesses and academic institutions. Along with superb image quality and easy operation, the PN-L802B/L702B/L602B brings the convenience of onscreen writing to a range of professional uses. Whether in a business setting or a classroom, functioning as an interactive whiteboard or as part of a videoconferencing system, the versatile PN-L802B/L702B/L602B brings easy communication and touch-and-show efficiency to your presentations. Isn't it time to get in touch?

A Multitude of Applications—Enhancing Communication in So Many Ways



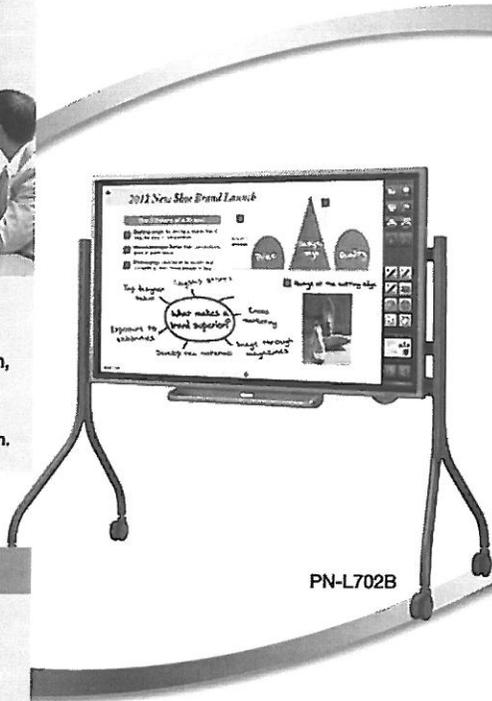
Videoconferences

The big, bright screen brings those far away much closer in just-like-being-there videoconferences*. To facilitate communication, participants can digitally display documents and write notations directly on the screen.

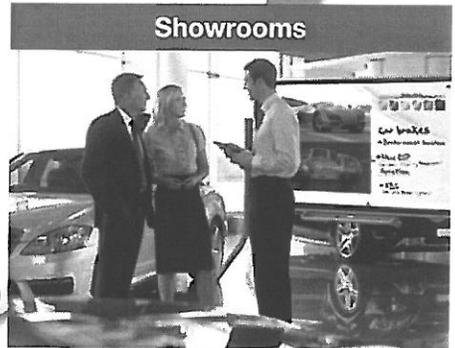
* Requires separately sold videoconferencing system.

Education/Conferences

In spacious lecture halls or conference rooms, the PN-L802B/L702B/L602B can be linked to a large Sharp video wall that keeps all participants fully engaged. Sharp's interactive whiteboards can also link with separate venues for remote learning and two-way communication.



PN-L702B



Showrooms

As an all-purpose showroom enhancer, the PN-L802B/L702B/L602B can be used to display product information, demonstrations, and more. And when the interactive whiteboard is hooked up to a Sharp MFP, onscreen info can be quickly printed out for customers.

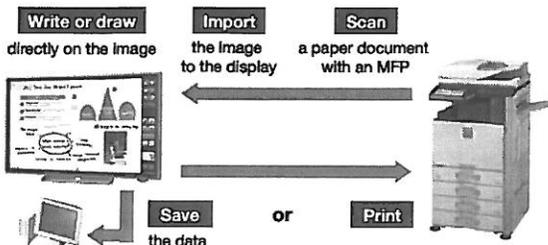
Discussions/Presentations

Touch control lets users change pages and enlarge or move an object, while a touch pen lets them make annotations, keep track of new proposals, and maintain the focus of discussions. Simultaneously displaying text, images, and handwritten notes gives presenters a persuasive edge.

Connectivity with Other Equipment Expands Communicative Potential

MFP Connectivity

Documents and images scanned from a colour-scan-capable Sharp MFP can be imported directly to the pen software for display on the LCD monitor. For added convenience, image data shown onscreen—including notations—can be saved to a PC or sent directly to an MFP for printout.



Video Wall Connectivity

Linking the PN-L802B/L702B/L602B to a multi-screen configuration of Sharp PN-V602/V601 monitors enables the instant display of content as it's created and makes even small text easily visible.



PC Connectivity

Linking the PN-L802B/L702B/L602B to a PC makes it easy to bring up shared documents stored on a cloud. And after meetings, whiteboard notes saved on the PC as PDF documents can be e-mailed with ease to all concerned parties.

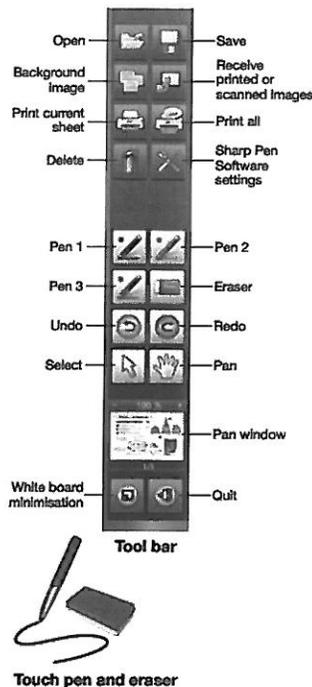


Simple and Straightforward Operation Via Touch Pen or Finger

Simple and Intuitive User Interface

Developed specifically for Sharp touchscreen LCD monitors, the bundled **Sharp Pen Software** allows anyone to smoothly and easily operate the PN-L802B/L702B/L602B. Once documents created on any application software have been imported as images and displayed on the touchscreen, users can quickly write and draw directly on the screen surface using the bundled **touch pen** or a finger.

This user-friendly interface supports onscreen functions for pen-colour and line-thickness selection as well as an **eraser** tool that can be used to delete selected notations or clear the entire screen at once. Screen images can be enlarged or rotated, and handwritten notations such as text and drawings can be selected and repositioned.



Dual-Touch Interface

The PN-L802B/L702B/L602B supports a dual-touch* function. In addition to letting the user **scroll** pages with two fingers, this function makes it possible to **enlarge** then **shrink** an image by simply spreading two fingers apart and then bringing them together.

* Available only on Windows® 7



Microsoft® Office Ink Tools*

The PN-L802B/L702B/L602B supports Microsoft® Office ink functionality, allowing the user to write on Excel® or Word documents displayed onscreen and save the files—notations and all.

* Available only on Windows® 7

Ready-to-Use Templates

Eight ready-to-use templates come preinstalled: Action Plan/Calendar/Chalk Board/Cork/Graph/Minutes/Monthly Schedule/To Do List. Users can also custom make their own original templates.

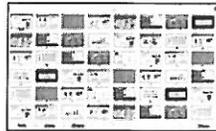
Upgraded Sharp Pen Software* provides these advanced functions and more!

Floating Tool Bar

The tool bar won't get in the way of the presenter. It can be moved about freely on the screen, displayed horizontally or vertically, or even hidden from view.

Expanded Sheet Preview Function

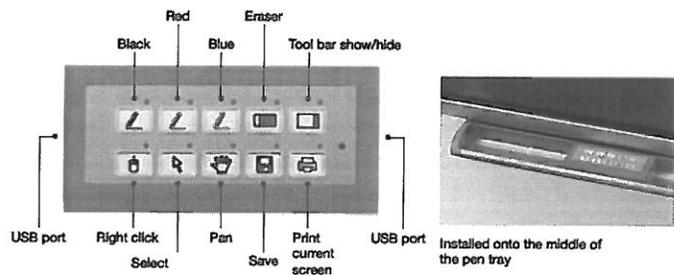
Pages displayed onscreen can be easily saved and called up. Convenient editing functions allow pages to be added, deleted, copied, and moved. And multiple pages can be displayed on the screen as **thumbnails**.



* Consult your local dealer about availability and other details.

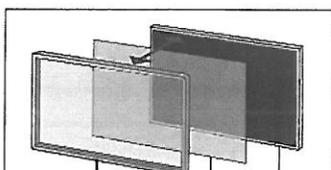
Touch Application Pad (option)

The optional Touch Application Pad can be installed onto the pen tray for easy access to touch pen functions. The pad boasts 10 one-touch buttons, each of which can be programmed to execute a Sharp Pen Software command, issue a key/mouse code, or start a specified application. With two **USB ports**, the pad also functions as a convenient USB hub for connecting the PN-L802B/L702B/L602B to a USB memory device, keyboard, or mouse.



Enhanced Touchscreen Response

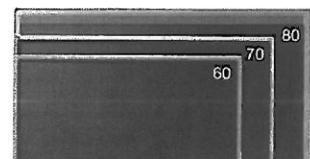
The PN-L802B/L702B/L602B's integration of a high-quality LCD panel and a highly sensitive touchscreen makes for easy communication. For heightened touchscreen responsiveness and stress-free onscreen writing, the PN-L702B and the PN-L602B employ Sharp's proprietary **infrared blocking detection system**, which uses multiple infrared sensors to locate the position of the user's finger or the touch pen. The PN-L802B employs a system better suited for very large screens: **optical imaging technology** uses optical cameras in the upper right and left corners of the screen to detect shadows made on the



Outstanding Image Quality in Three Sizes

The LCD panel on the PN-L802B/L702B/L602B comes in three large screen sizes: **80 inches**, **70 inches**, and **60 inches**. All three sizes incorporate Sharp's **UV²A*** technology, which ensures highly efficient backlighting and prevents light leakage for the display of bright whites, vivid colours, and deep blacks. The PN-L802B/L702B's full-array **LED backlight** and the PN-L602B's edge-lit LED backlight provide easy readability and reliable performance—all with low power consumption.

* UV²A stands for "Ultraviolet-induced Multi-domain Vertical Alignment," a photo-alignment technology that ensures uniform alignment of liquid crystal molecules in a certain direction.



Specifications

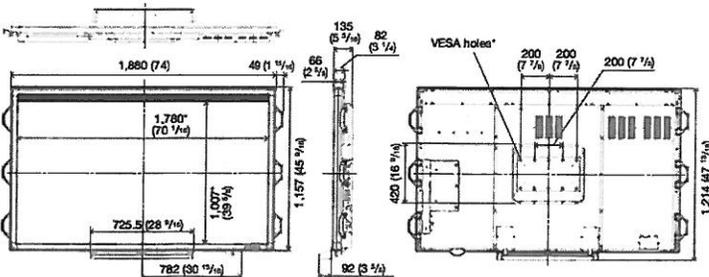
Model Name	PN-L802B	PN-L702B	PN-L602B	
Installation	Landscape		Landscape/Portrait*1 (Pen software works with landscape installation)	
LCD Panel	80-inch widescreen (203.2 cm diagonal) UVA LCD		70-inch widescreen (176.6 cm diagonal) UVA LCD	
	Max. Resolution	1,920 x 1,080 pixels		
	Max. Display Colours (approx.)	1,064 million colours		
	Pixel Pitch (H x V)	0.923 x 0.923 mm	0.802 x 0.802 mm	0.692 x 0.692 mm
	Max. Brightness (average)*2	300 cd/m ²		
	Contrast Ratio	3,000 : 1		
	Viewing Angle (H/V)	160°/160° (CR ≥ 10)		
	Active Screen Area (W x H) (approx.)	1,771.2 x 996.3 mm (69 3/4" x 39 1/4")	1,538.9 x 865.6 mm (60 7/8" x 34 1/8")	1,329.1 x 747.6 mm (52 3/8" x 29 7/8")
	Response Time	6 ms (gray to gray, avg.)		
	Backlight	White LED, full array		White LED, edge lit
Touchscreen	Touch Technology	Optical imaging method	Infrared blocking detection method	
	PC Connection Port	USB (1.1 standard) x 1		
	Power Supply	PC through USB port		
	Driver	OS: Windows® XP, Windows Vista®, Windows® 7		
	Protection Glass Thickness*3	Approx. 3.4 mm	Approx. 3.0 mm	
Touch Pen	Communication	Ultrasonic communication method		
	Button	2 function buttons		
Computer Input	Video	Analogue RGB (0.7 Vp-p) [75Ω], Digital (conforms to DVI 1.0 standards)		
	Synchronisation	Horizontal/vertical separation (TTL: positive/negative), Sync on green, Composite sync (TTL: positive/negative)		
	Plug & Play	VESA DDC2B		
	Power Management	VESA DPMS, DVI DMPM		
Video Colour System	With Optional PN-ZB01 NTSC (3.58 MHz, 4.43 MHz), PAL, PAL60, SECAM			
Input Terminals*4	Standard	PC analogue: Mini D-sub 15-pin x 1, HDMI x 1*, 3.5 mm-diameter mini stereo Jack x 1, RS-232C D-sub 9-pin x 1		
	With Optional PN-ZB01	PC digital: DVI-D 24-pin x 1*, PC analogue: BNC x 1**7, Video: BNC x 1, S-Video x 1, Component video: BNC (Y, Cb/Pb, Cr/P) x 1*, Audio: RCA pin (L/R) x 2		
Output Terminals	Standard	Audio: RCA pin (L/R) x 1, RS-232C D-sub 9-pin x 1		
	With Optional PN-ZB01	PC digital: DVI-D 24-pin x 1**5		
Input/Output Terminals	With Optional PN-ZB01 LAN port			
Speaker Output	Built-in	7 W + 7 W		
	External	7 W + 7 W (60)**6		
Power Supply	100V - 240V AC, 50/60 Hz			
Power Consumption	260 W	240 W	170 W	
Environmental Conditions	Operating Temperature	5°C to 35°C		
	Operating Humidity	20% to 80% RH (no condensation)		
Dimensions (W x D x H) (approx.) (display only)	1,880 x 195 x 1,157 mm (74" x 5 3/8" x 45 1/8")	1,648 x 116 x 982 mm (64 7/8" x 4 9/16" x 38 1/8")	1,440 x 101 x 855 mm (56 11/16" x 4" x 33 1/8")	
Weight (not including PN-ZB01) (approx.)	102 kg (224.9 lbs)	70 kg (154.3 lbs)	54 kg (119.0 lbs)	
Main Accessories	Touch pen, touch pen battery (AAA size), pen tips (for touch pen) x 2, eraser, pen tray, power cord, remote control unit, batteries (AA size x 2), CD-ROM, set-up manual, terminal label, Sharp logo cover sticker, cable clamp x 3 (2 for PN-L702B), USB cable, tray mounting fittings x 2, tray mounting screws x 6			

*1 Portrait installation may not be available in some regions. Consult your local dealer for details. *2 Brightness will depend on input mode and other picture settings. Brightness level will decrease over time. Due to the nature of the equipment, it is not possible to precisely maintain a constant level of brightness. *3 Including AR coating on both sides. *4 Use a commercially available connection cable for PC and other video connections. *5 HDCP compatible. For both PC and AV components. *6 The analogue and component BNC terminals are switchable. Use the menu to select. *7 Does not support plug & play. *8 Requires optional PN-ZB01.

DESIGN AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

Dimensions

(PN-L802B)

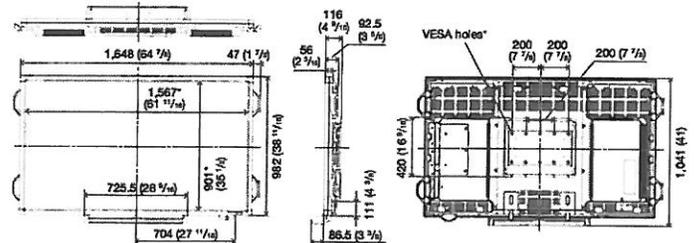


Units: mm (inch)

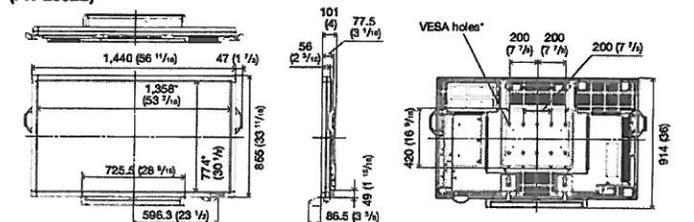
* Screen dimensions

* To use the VESA-standard mounting bracket, use M6 screws that are 8 to 10 mm plus the thickness of the bracket.

(PN-L702B)

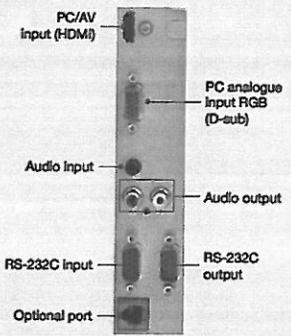


(PN-L602B)



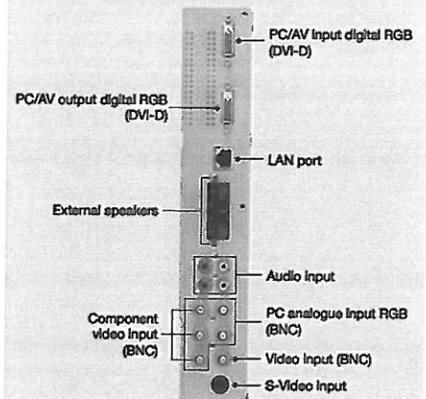
Input/Output Terminals

(standard)



(option)

PN-ZB01 Interface Expansion Board



Options

- PN-ZB01 : Interface Expansion Board
- PN-ZC01 : Touch Application Pad

For PN-L802B

- PN-ZS00F : Stand (2,100 mm height)

For PN-L702B

- PN-ZS70F : Stand (2,100 mm height)
- PN-ZS701 : Stand (1,800 mm height)

For PN-L602B

- PN-ZS00F : Stand (2,100 mm height)
- PN-ZS009 : Stand (1,800 mm height)

Consult your local Sharp dealer or representative on availability and other details.

Distributed by:

SHARP